APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/976,490	10/12/2001	Michael C. Dorsey	2070.006400	3412

7590 02/27/2004	EXAMINER	
B. Noel Kivlin	TRIMMINGS, JOHN P	
Meyertons, Hood, Kivlin, Kowert & Goetzel, P.C.		
P.O. Box 398	ART UNIT	PAPER NUMBER
Austin,, TX 78767-0398	2133	7

DATE MAILED: 02/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No.	Applicant(s)
	09/976,490	DORSEY, MICHAEL C.
	Examiner	Art Unit
	John P Trimmings	2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 October 2001*.

2a)☐ This action is **FINAL.** 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35* is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *7/14/2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____ .

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
　　　　application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
　　Paper No(s)/Mail Date _____ .

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____ .

DETAILED ACTION

Claims 1-35 are presented for examination.

Information Disclosure Statement

The examiner has considered the applicant's Disclosure Statements of 3/27/2003.

Specification

1.   The disclosure is objected to because of the following informalities: page 7 line 8 describes engine 110 being configured by a 66 bit signal composed of a 32 bit vector and 33 bit seed. The sum of 32 and 33 is not 66. Appropriate correction is required.

2.   The disclosure is objected to because of the following informalities: page 9 line 24 recites, "(bits B_{26} to B_0)", but the examiner believes that it should read, "(bits B_{30} to B_0)". Appropriate correction is required.

3.   The disclosure is objected to because of the following informalities: page 9 line 34 recites, "LBST_STEP_STEPE", but the examiner cannot find this reference in FIG.9. Appropriate correction is required.

4.   The disclosure is objected to because of the following informalities: page 10 line 8 recites, "components 150", but the examiner cannot find this reference in the drawings. Appropriate correction is required.

5.   The disclosure is objected to because of the following informalities: page 13 lines 28 and 30 recite, "ASIC 100", but the examiner cannot find this reference in the drawings, and believes it should read "ASIC 150". Appropriate correction is required.

6.   The disclosure is objected to because of the following informalities: page 13 line 31 recites, "925 including", but the examiner cannot find this reference in the drawings. Appropriate correction is required.

7.   The disclosure is objected to because of the following informalities: page 13 line 31 recites, "controller 915", but the examiner cannot find this reference in the drawings, and believes it should read, "controller 920". Appropriate correction is required.

Claim Rejections - 35 USC § 112

8.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9.   Claims 26, 27, 29-31 and 35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The examiner has reviewed all of the apparatus claims, and has compared the frequency domain assignments of device versus the frequency domains of the methods. The examiner has based all claims on the frequency domains specified in the initial device claims, and has concluded that the methodology claims are not clear in as much as the domains claimed in the methods do not match the domains within the device. Therefore, since it is not clear to the examiner, it is requested that the applicant explain in detail why there are opposing domains in this invention. Based on the examiner's rejection, the above claims will be interpreted in the remainder of this office action in light of the device of this application in terms of frequency/clock domains.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 22-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Motika et al., U.S. Patent No. 5982189.

As per Claim 22:

The claim is to a method for use in performing a built-in self-test, the method comprising: receiving an external clock signal in a testing interface (Motika et al., FIG.2 "REF CLK"), the external clock signal defining a first frequency domain (FIG.2 PLL 24); generating a first internal clock signal (FIG.2 OPCG output to LBIST), the first internal clock signal defining a second frequency domain in which a logic built-in self-test may be performed (FIG.2 LBIST); and generating a second internal clock signal (FIG.2 OPCG output to ABIST), the second internal clock signal defining a third frequency domain in which memory built-in self-test may be performed (FIG.2 ABIST).

As per Claim 23:

The method of claim 22, wherein generating the first internal clock signal (Motika et al. FIG.2 OPCG output to LBIST) includes generating the first internal clock signal from the external clock signal (Motika et al., FIG.2 "REF CLK").

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

11.   Claims 1, 2, 4, 6, 9-15, 19, 21 and 31-34 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Au et al., U.S. Patent No. 6681359, and in view of Motika et al.,

U.S. Patent No. 6000048.

As per Claim 1:

Au et al. teaches a BIST controller (see FIG.3 MBIST CONTROL 116)

comprising a 2nd frequency domain in which memory self-test is performed (FIG.3

BIST_CLK 110) and a 3rd frequency domain used for test interface (FIG.3 TAP

CONTROLLER 112 and TCK 106). However, Au et al. does not teach a 1st frequency

domain for a logic test circuit, but in an analogous art, Motika et al. teaches differing

frequency domains (column 2 lines 50-65) used for ABIST and for LBIST (logic circuit)

testing (see FIG.2 frequency generator 26 which feeds circuits 30). And, wherein the

generator is being used for the advantage of improving thermal stress in test (column 1

lines 60-64), one with ordinary skill in the art at the time of the invention, motivated as

suggested by Motika, would combine the two references, and so the claim is rejected.

As per Claim 2:

Dependent on Claim 1, the claim limits the 1st clock signal (logic) is derived from

the 3rd clock signal (test interface). In Motika et al., FIG.2, both of the logic and memory

clock signals are derived from a reference clock (FIG.2 "REF CLK") from the outside

test source (column 3 lines 22-39) such as a tester interface. And in view of the

motivation previously stated for Motika et al., one with ordinary skill in the art at the time

of the invention would combine the references for this claim, and so it is rejected.

As per Claim 4:

Dependent on Claim 1, limits clocks 1, 2 and 3 to 150, 75, and 10 MHz

respectively. The claims of reference, in specifying the clocks and their usage, does not

require that the frequencies be of any specific number. Therefore, one with ordinary skill

in the art at the time of the invention, would interpret the references as to be all

encompassing in terms of clock frequency, and so would include the frequencies stated

in the applicant's claim. And in view of the motivation previously stated for Claim 1, this

claim is rejected.

As per Claim 6:

The claim limits Claim 1 further wherein the memory test generates a plurality of

step clock signals. These clock signals are the equivalent of BIST_CLK 110 in Au et al.,

FIG.3, and under control of the TAP CONTROLLER 112, the clocks continue to run until

the test terminates with the TEST_DONE BIT in FIG.5 182. And in view of the

motivation previously stated for Claim 1, this claim is rejected.

As per Claim 9:

The claim is dependent on Claim 1, and limits the 2nd clock domain to being a

memory self-test engine (Au et al., FIG.3 MBIST CONTROL 116) that executes the self-

test (Au et al., column 8 lines 13-55). And in view of the motivation previously stated for

Claim 1, the claim is rejected.

As per Claim 10:

The hardware of Claim 9 above is further limited to a self-test signature register

for storing test results. Au et al., in column 8 lines 13-55 describes the MBIST testing

wherein the test results are stored in scan register cells 114 for eventual scanning

through the TAP interface. And in view of the motivation previously stated for Claim 9,

the claim is rejected.

As per Claim 11:

The hardware of Claim 9 above is further limited to a MBIST self-test state

machine (Au et al., FIG.3 MBIST CONTROL 116, and column 9 lines 25-33, and a

nested BIST engine (FIG.3 TAP CONTROLLER 112, and column 9 lines 7-24)

operating the respective state machine. And in view of the motivation previously stated

for Claim 9, the claim is rejected.

As per Claim 12:

The hardware of Claim 9 above is further limited to plural MBIST self-test state

machines (Au et al., FIG.3 MBIST CONTROL 116 – there are 4 in the example), and

the self-test engine (FIG.3 TAP CONTROLLER 112) operating one of the state

machines (Au et al. column 3 lines 54-62) and therefore testing one memory circuit.

And in view of the motivation previously stated for Claim 9, the claim is rejected.

As per Claim 13 and 21:

Au et al. teaches a BIST controller (see FIG.3 MBIST CONTROL 116) and a

JTAG test interface (Au et al. see Abstract), comprising a 2nd frequency domain in which

memory self-test is performed (FIG.3 BIST_CLK 110) and a 3rd frequency domain used

for test interface (FIG.3 TAP CONTROLLER 112 and TCK 106). Also taught by Au et al.

is a plurality of memory components (FIG.3 136 - there are 4). However, Au et al. does

not teach a 1st frequency domain for a logic core, but in an analogous art, Motika et al.

teaches differing frequency domains (column 2 lines 50-65) used for ABIST and for

LBIST (logic core) testing (see FIG.2 frequency generator 26 which feeds circuits 30).

And, wherein the generator is being used for the advantage of improving thermal stress

in test (column 1 lines 60-64), one with ordinary skill in the art at the time of the

invention, motivated as suggested by Motika, would combine the two references, and so

the claim is rejected.

As per Claim 14:

Dependent on Claim 13, the claim limits the 1st clock signal (logic) is derived from

the 3rd clock signal (test interface). In Motika et al., FIG.2, both of the logic and memory

clock signals are derived from a reference clock (FIG.2 "REF CLK") from the outside

test source (column 3 lines 22-39) such as a tester interface. And in view of the

motivation previously stated for Motika et al., one with ordinary skill in the art at the time

of the invention would combine the references for this claim, and so it is rejected.

As per Claim 15:

Dependent on Claim 13, limits clocks 1, 2 and 3 to 150, 75, and 10 MHz

respectively. The claims of reference, in specifying the clocks and their usage, does not

require that the frequencies be of any specific number. Therefore, one with ordinary skill

in the art at the time of the invention, would interpret the references as to be all

encompassing in terms of clock frequency, and so would include the frequencies stated

in the applicant's claim. And in view of the motivation previously stated for Claim 13, this

claim is rejected.

As per Claim 19:

The claim is dependent on Claim 13, and limits the 2nd clock domain to being a

memory self-test engine (Au et al., FIG.3 MBIST CONTROL 116) that executes the self-

test (Au et al., column 8 lines 13-55). And in view of the motivation previously stated for

Claim 13, the claim is rejected.

As per Claim 31:

The claim describes a method for testing an integrated circuit device, and

Au et al. teaches a method comprising: interfacing the integrated circuit device with a

tester (Au et al., column 1 lines 18-33 and column 3 lines 8-20); performing a built-in

self-test (column 3 lines 1-7), including: receiving an external clock signal in a testing

interface from the tester (FIG.3 TCK 106), the external clock signal defining a first

frequency domain (TAP CONTROLLER); generating a first internal clock signal (FIG.3

TEST_H 126), and obtaining the results of the built-in self-test (Au et al., column 3 lines

1-7). However, Au et al. does not specifically describe how clock signals are derived.

But Motika et al., in an analogous art teaches this in that the first internal clock signal

(Motika et al. FIG.2 105 defines a second frequency domain (FIG.2 output of OPCG 26)

in which a logic built-in self-test may be performed (FIG.2 LBIST 34); and generating a

second internal clock signal (FIG.2 other output of OPCG 26), the second internal clock

signal defining a third frequency domain in which memory built-in self-test may be

performed (FIG.2 ABIST 32). And in view of the previous motivation for Motika et al., the

claim is rejected.

As per Claim 32:

Taught by Au et al in FIG.3. in addition to the teachings of Claim 31 is, wherein

generating the first internal clock signal (FIG.3 TEST_H 126) includes generating the

first internal clock signal from the external clock signal (FIG.3 TCK 106). And in view of

the above motivation, the claim is rejected.

As per Claim 33:

Dependent on Claim 31, limits clocks 1, 2 and 3 to 150, 75, and 75 MHz

respectively. The claims of reference, in specifying the clocks and their usage, does not

require that the frequencies be of any specific number. Therefore, one with ordinary skill

in the art at the time of the invention, would interpret the references as to be all

encompassing in terms of clock frequency, and so would include the frequencies stated

in the applicant's claim. And in view of the motivation previously stated for Claim 31, this

claim is rejected.

As per Claim 34:

The method of claim 31, wherein performing the built-in self-test includes

performing a logic built-in self-test is also taught by Motika et al. (FIG.2 LBIST 34), and

in view of the motivation above, the claim is rejected.

12.   Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Au et al., U.S. Patent No. 6681359, and in view of Motika et al., U.S. Patent No.

6000048 as applied to Claim 13 above, and in view of Arimilli et al., U.S. Patent No.

6665828, and further in view of "Reducing Test Data Volume using External/LBIST

Hybrid Test Patters", Das et al., ITC Test Conference 2000, October 3-5, 2000, pp 115-

122.

As per Claim 16:

The controller of Claim 13 is limited as follows: the LBIST internal test of the

circuit described by Arimilli et al. (FIG.3) encompasses a loading process (LSSD

clocking as per the subject claim) whereby the test data is scanned into the circuit under

test (FIG.6 606 and 603), but the application of test patterns by a step clock is not

specifically described even though a PRPG is used. And in this reference, the inventor

cites improved testing with less internal wiring (column 2 lines 2-6) in LSSD testing. One

with ordinary skill in the art at the time of the invention, motivated by Arimilli et al., would

combine the references, and so the claim is rejected.

As per Claim 17:

Claim 13 is further limited in that the LBIST circuit described by Das et al.

describes what occurs after data is loaded (page 116 column 1 paragraph 4, step 1) into

a PRPG, wherein the LBIST test pattern is run a fixed number of times (step clocking as

per the subject claim). And Das et al. cites improved testing coverage with a Hybrid

approach (see Abstract of paper, page 115). One with ordinary skill in the art at the time

of the invention, motivated by Das et al., would combine the references, and so the

claim is rejected.

13.   Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Au et al.,

U.S. Patent No. 6681359, and in view of Motika et al., U.S. Patent No. 6000048 as

applied to Claim 13 above, and in view of Koproski et al., U.S. Patent No. 6671838. The

claims limit the logic circuit of Claim 13 to comprising an LBIST engine for executing

tests and storing results in a MISR. Koproski et al., in FIG.1 illustrates an LBIST with a

state machine (LBIST engine/state machine, column 2 lines 60-67 and column 3 lines 1-

5), and result storage (FIG.1 MISR 12). Koproski et al., in column 2 lines 5-28 describes

the advantage to be a better, flexible and custom approach to random pattern

generation. One with ordinary skill in the art at the time of the invention would combine

the references to attain this result, and in view of the motivation attributed to Koproski et

al., the claim is rejected.

14.   Claims 3 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Au et al., U.S. Patent No. 6681359, and in view of Motika et al., U.S. Patent No.

6000048 as applied to Claims 2 and 13 above, and further in view of Krishna et al., U.S.

Patent No. 6000048.

As per Claim 3:

The claim, dependent on Claim 2, limits the clocks in that the 2nd clock (memory) is derived from the 1st clock (test interface). Krishna et al., in FIG.2, shows the base clock (CLK 34) feeding the frequency generator 36 that is in turn passing on the multiplied clock frequency through the logic circuit 54 to the memory 32. Therefore, the clock in the memory is derived from the logic circuit. In column 3 lines 28-42, Krishna et al. states an advantage of being able to test large memories using a VLSI tester. And one with ordinary skill in the art at the time of the invention, motivated by Krishna et al., would combine the references, and so the claim is rejected.

As per Claim 20:

The claim, dependent on Claim 13, limits the memory to an SRAM. Krishna et al., in FIG.2 teaches the inclusion of an SRAM in the makeup of the device, and in view of the motivation for Krishna et al previously stated, the claim is rejected.

15.   Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Motika et al., U.S. Patent No. 6000048 as applied to Claim 22 above, and further in view of Krishna et al., U.S. Patent No. 6000048. The claims, dependent on Claim 22, limit the clocks in that the 2nd clock (memory) is derived from the 1st clock (test interface). Krishna et al., in FIG.2, shows the base clock (CLK 34) feeding the frequency generator 36 that is in turn passing on the multiplied clock frequency through the logic circuit 54 to the memory 32. Therefore, the clock in the memory is derived from the logic circuit. In column 3 lines 28-42, Krishna et al. states an advantage of being able to test large memories using a VLSI tester. Also, the claims of reference, in specifying the clocks and their usage, does not require that the frequencies be of any specific number.

Therefore, one with ordinary skill in the art at the time of the invention, would interpret

the references as to be all encompassing in terms of clock frequency, and so would

include the frequencies stated in the applicant's claim 25. And in view of the motivation

previously stated for Krishna et al., the claims are rejected.

16.   Claims 26-29 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Motika et al., U.S. Patent No. 6000048 as applied to Claim 22 above, and further in

view of Krishna et al., U.S. Patent No. 6000048. These claims of method are being

interpreted by the examiner as being in the same frequency domains as claimed by the

applicant for the device. Based on the art referenced, these claims bear similarity to the

device claims in the following manner; Claim 26 = Claims 16 & 17; Claims 27 & 28 =

Claim 18 and Claim 35; and Claim 29 = Claim 19. Based on the rejection of the device

claims, the subject method claims are similarly rejected.

17.   Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Motika

et al., U.S. Patent No. 6000048 as applied to Claim 22 above, and further in view of Lo

et al., U.S. Patent No. 5661732. The claim limits the MBIST to include resetting a

memory built-in self-test engine (Lo et al. column 6 lines 31-37); initiating a plurality of

components and signals in the third frequency domain upon receipt of a memory built-in

self-test run signal (column 5 lines 5-20); flushing the contents of a plurality of memory

components to a known state (column 13 lines 6-10) after initialization of the

components and the signals; and testing the flushed memory components (column 13

lines 5-20). Lo et al., in column 2 lines 1-31 lists the advantages of this invention,

among the advantages is to reduce BIST redesign. One with ordinary skill in the art at

the time of the invention, motivated by Lo et al. as suggested, would combine the references, and so the claim is rejected.

18.   Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Au et al., U.S. Patent No. 6681359, and in view of Motika et al., U.S. Patent No. 6000048 as applied to Claim 1 above, and in view of Arimilli et al., U.S. Patent No. 6665828, and further in view of "Reducing Test Data Volume using External/LBIST Hybrid Test Patters", Das et al., ITC Test Conference 2000, October 3-5, 2000, pp 115-122. The controller of Claim 1 is limited as follows: the LBIST internal test of the circuit described by Arimilli et al. (FIG.3) encompasses a loading process (LSSD clocking as per the subject claim) whereby the test data is scanned into the circuit under test (FIG.6 606 and 603), but the application of test patterns by a step clock is not specifically described even though a PRPG is used. And in this reference, the inventor cites improved testing with less internal wiring (column 2 lines 2-6) in LSSD testing. The subject claim is further limited in that the LBIST circuit described by Das et al. describes what occurs after data is loaded (page 116 column 1 paragraph 4, step 1) into a PRPG, wherein the LBIST test pattern is run a fixed number of times (step clocking as per the subject claim). And Das et al. cites improved testing coverage with a Hybrid approach (see Abstract of paper, page 115). One with ordinary skill in the art at the time of the invention, motivated by both Arimilli et al. and Das et al., would combine the references, and so the claim is rejected.

19.   Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Au et al., U.S. Patent No. 6681359, and in view of Motika et al., U.S. Patent No.

6000048 as applied to Claim 1 above, and in view of Koproski et al., U.S. Patent No.

6671838. The claims limit the logic circuit of Claim 1 to comprising an LBIST engine for

executing tests and storing results in a MISR, and with a pattern generator powering the

application of signals. Koproski et al., in FIG.1 illustrates an LBIST with a state machine

(LBIST engine/state machine, column 2 lines 60-67 and column 3 lines 1-5), and result

storage (FIG.1 MISR 12), with signals applied through a random pattern generator

(FIG.1 2). Koproski et al., in column 2 lines 5-28 describes the advantage to be a better,

flexible and custom approach to random pattern generation. One with ordinary skill in

the art at the time of the invention would combine the references to attain this result,

and in view of the motivation attributed to Koproski et al., the claim is rejected.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to John P Trimmings whose telephone number is 703-305-

0714. The examiner can normally be reached on weekdays, 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Albert DeCady can be reached on 703-305-9595. The fax phone number

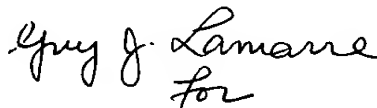for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications jpt obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

John P Trimmings
Examiner
Art Unit 2133

jpt

Albert DeCady
Primary Examiner